

## CASE REPORT

# A case of adenoid cystic carcinoma of the breast

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**Abstract :** An 85-year old woman who had a large tumor in the left breast came to our out-patient clinic. Computed tomography showed multiple lung tumors in addition to a huge tumor in the left breast. A needle biopsy brought about a histological diagnosis of ductal carcinoma. A simple mastectomy was performed and a histological examination using the resected specimen demonstrated a coexistence of an adenoid structure and a false ductal structure according to the histologic characteristics of adenoid cystic carcinoma, which is quite rare among breast tumors. *J. Med. Invest.* 65 : 289-291, August, 2018

**Keywords :** breast cancer, adenoid cystic carcinoma, pulmonary metastasis

## INTRODUCTION

Adenoid cystic carcinoma (ACC) of the breast is a rare entity accounting for 0.1% among breast cancers (1). The proportion of triple negative cancer containing neither expression for estrogen receptor (ER), progesterone receptor (PgR) nor HER2 is higher in breast ACCs. But it is also known to have a smaller proportion of nodal and distant metastasis.

We herein report an 85-year-old woman who proved to have a large breast tumor diagnosed as ACC with multiple pulmonary metastasis.

## CASE REPORT

An 85 year-old woman who had been suffering from slight fever came to out-patient clinic. Physical examination demonstrated that she had a large tumor in the left breast, which was found two years ago by herself and was left untouched by her decision.

Ultrasonography demonstrated a heterogeneous tumor measuring 5.8 cm in size with an irregular surface in the left breast (Fig. 1) and a needle biopsy brought about a histological diagnosis of ductal carcinoma. By immunohistochemical examination, the tumor proved to express neither ER, PgR nor HER2. Computed tomography showed multiple lung tumors in addition to the huge tumor in the left breast (Fig. 2). Examinations to detect the primary site of the metastatic tumor including gastrointestinal fiberscope and PET/CT were not performed. There was no obvious finding to show lymph node metastasis, and then the stage of the tumor was determined T3N0M1.

While the patient had been hesitating to visit us to undergo drug-induced therapy for two months, the breast tumor had rapidly grown to 10 cm measuring in maximum size. Then, a surgical indication was decided by an increasing pain and futuristic hemorrhage due to the disintegration of the grown tumor. She refused to undergo suggested additional chemotherapy to treat metastatic lung tumors. Then, a palliative mastectomy was performed (Fig. 3). The major axis of the tumor had increased from 5.8 cm to 10 cm in size during two months.

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While only palliative resection of the breast would be performed and additional image research including CT was avoided, when the breast tumor had rapidly grown, respiratory condition was also gradually worsened. Due to these clinical courses, we considered that the lung tumors were metastasized by breast ACC.

By histological examination, tumor cells were arranged into the glandular-cribriform and cord-like patterns and the cystic lesion was filled with eosinophilic membrane basement material (Fig. 4A). Moreover, cystic portion was stained by Alcian blue and mammary ducts were stained by PAS (Fig. 4B).

## DISCUSSION

Adenoid cystic carcinoma (ACC) of the breast is classified into special types of invasive carcinoma in the General rules for clinical and pathological recording of breast cancer by The Japanese breast cancer society (2), and it can be a rare modality accounting for only 0.1% among malignant tumors of the breast (1, 3).

ACC appears commonly in the myoepithelial cells of the exocrine glands of salivary gland, perspiratory gland, and bronchial

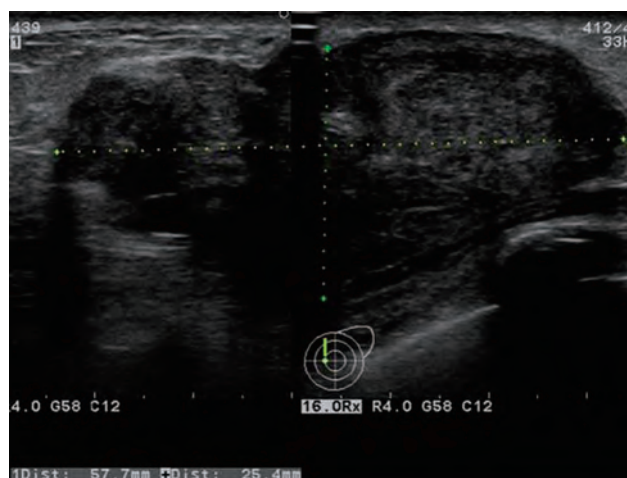


Fig. 1. Ultrasonography  
A heterogeneous tumor measuring 5.8 cm in size with an irregular surface found in the left breast.

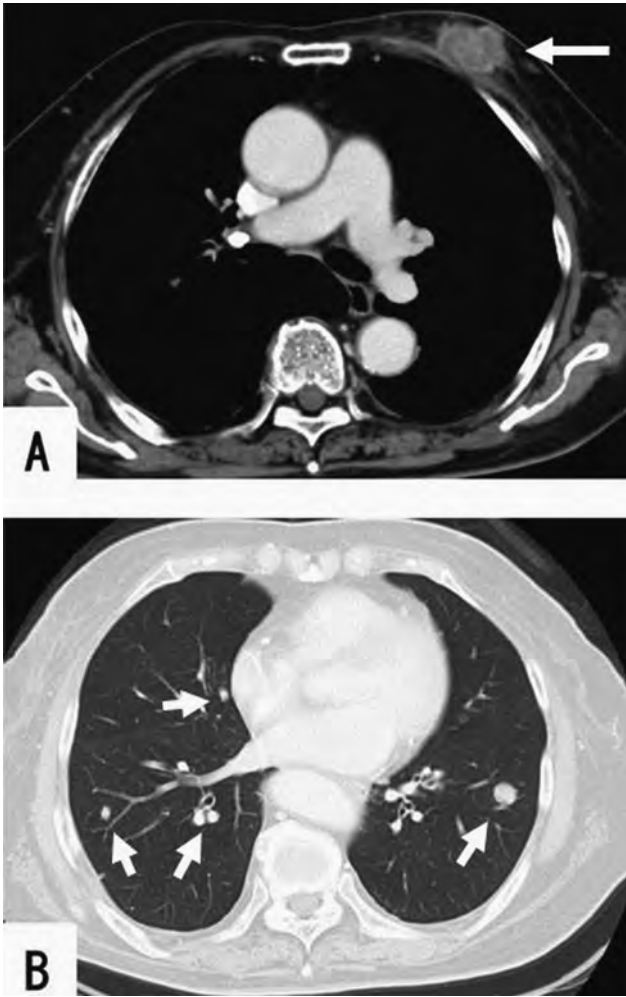


Fig. 2. Computed tomography  
A : A large tumor was recognized in the left breast.  
B : Multiple metastatic lung tumors were found.



Fig. 3. Dissected specimen  
The major axis of the solid tumor had increased from 5.8 cm to 10 cm in size during two months.

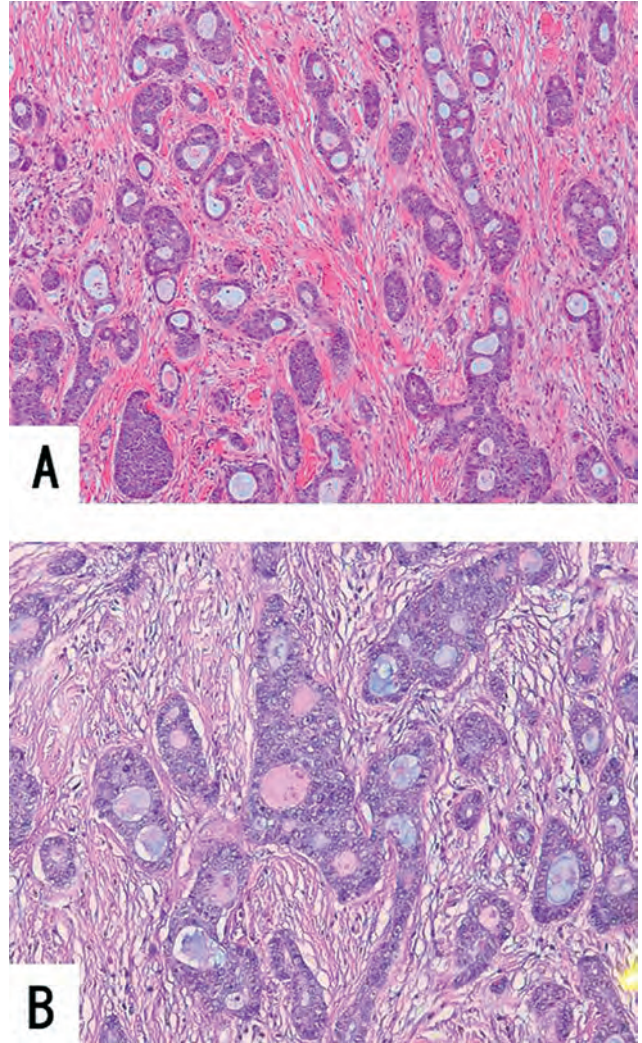


Fig. 4. Pathologic findings  
A : HE staining ; The tumor cells were arranged into the glandular-cribriform and cord-like patterns and the cystic lesion was filled with eosinophilic membrane basement material (HE).  
B : Alcian blue and PAS staining ; Cystic portion was stained by Alcian blue and mammary ducts were stained by PAS.

epithelium. Pathological characteristics of breast ACC has been reported to be identified with those in these organs obtaining the solid nests composed of the duct and pseudo-cyst constructing glandular-cribriform and cord-like patterns (4). Definitive pathologic diagnosis can be made by Alcian blue and PAS stain showing cystic portion stained by Alcian blue and mammary ducts stained by PAS (5). In this case, a histological examination using the resected specimen demonstrated a coexistence of an adenoid structure and a false ductal structure according the histologic characteristics of ACC.

Clinically, the breast ACC has been reported to be most common in the fifth and sixth decades of life of the women (6). The tumor is usually round-shaped and palpable as a painful mass and it often occurs unilaterally (7). Demonstration of irregular, heterogeneous, or hypoechoic mass lesion is an ultrasonographic characteristics of breast ACC (3).

Breast ACCs have been known to frequently express neither ER, PgR nor HER2, which has been defined as triple negative cancer (8, 9). While proliferative potential of triple negative breast cancer has

been reported to be aggressive compared with that of other histologic type (10), ACC of the breast that is often associated with the pathologic characteristics of triple negative cancer has been known as a tumor with less progressive potential causing infrequently tumor metastasis or tumor recurrence (11), and the patients' prognosis has been reported to be comparatively favorable (12).

Effect derived from anti-cancer drugs for breast ACC has not been elucidated fully. Proportion of metastasis in axillary lymph node has been reported to be low (11). And as a surgical option for local lesion of breast ACC, breast preserving treatment has been never inferior to mastectomy in the points of view regarding survival rates and tumor recurrence (1, 13). Sentinel lymph node biopsy can be selected for patients with breast ACC (14), and effectiveness derived from radiotherapy on prolongation of the survival with breast ACC has been reported (15). But whether breast preserving therapy can be a standard surgical treatment for breast ACC might be left to be discussed further (15).

A possible indication for surgical palliation in our case who is an elder woman and even had multiple metastatic lung tumors was a distressing pain derived from the tumor. ACC of the breast, in spite of its reputed less progressive potential, occasionally brings about much difficulty in deciding the therapeutic strategy when the tumor rapidly proliferates or contains distant metastasis.

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